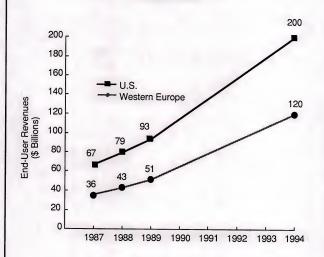


Note: Definition changes and dollar exchange rate differences (notably between 1986 and 1987) have slightly affected gross market sizes on a year to year basis.



#### FORECAST GROWTH IN THE SOFTWARE AND SERVICES INDUSTRY 1989-1994

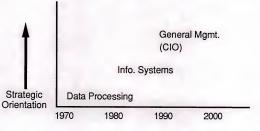




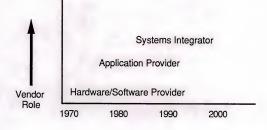
# MARKET DRIVING FORCES Technology Client Environment Information Technology Information Systems Characteristics Applications Demand for Software and Computer Services YSDS-4



#### **ORIENTATION OF THE RESPONSIBILITY**

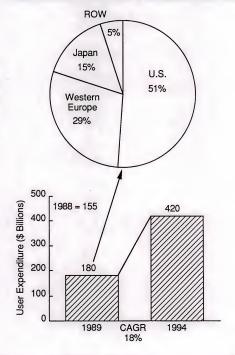


#### ROLE OF THE IS VENDOR



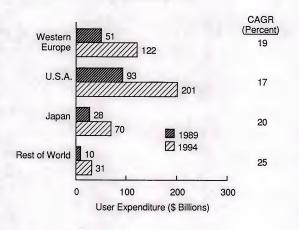


#### WORLD SOFTWARE AND SERVICES MARKET



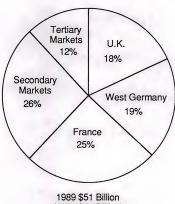


#### WORLD SOFTWARE AND SERVICES MARKET BY MAJOR GEOGRAPHIC REGION 1989-1994





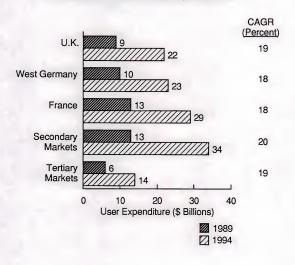
#### WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET



(1988 \$43 Billion)

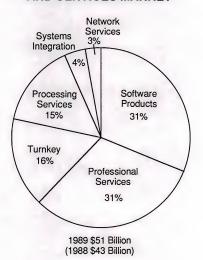


#### WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET BY MAJOR GEOGRAPHIC REGION, 1989-1994



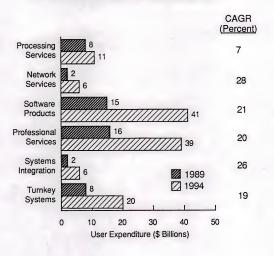


## WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET





#### WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET BY MARKET SECTOR, 1989-1994





#### **NETWORK SERVICES**

Electronic Information Services

Network Applications

Enhances Services (VANs)

Network Management

Bearer Services



# COMPARATIVE MARKET SIZE W.E. AND U.S.

Market Size (\$ Billions)	20	50	80	110
W.E.	1984	1989	1992	1994
U.S.	1981	1986	1988	1990

(First year market size exceeded.)



#### WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET LEADING VENDORS

Rank	1979	Percent	1987	Percent
1	IBM	6.3	IBM	8.3
2	GSI	2.3	Nixdorf	3.0
3	ICL	1.8	Unisys	2.0
4	GEIS	1.5	CGS	1.5
5	CGS	1.4	Siemens	1.5
6	CICI	1.3	Digital	1.3
7	SEMA	1.3	Finsiel	1.2
8	SCICON	1.2	Reuters	1.1
9	SG2	1.2	Transpac	1.0
10	CDC	1.1	Olivetti	0.9
Total		19.4		21.8



# INFORMATION SERVICES LEADING VENDORS

Vendors	1988 U.S. Revenues (\$B)*	Market Share (Percent)
IBM	5.7	7
EDS	1.7	2
ADP	1.6	2
DEC	1.3	2
Unisys	1.2	2
CSC	1.0	1
Arthur Andersen	1.0	1
McDonnell Douglas	0.9	1
CDC	0.9	1
Computer Associates	0.7	1

Top Ten Vendors = 20% of Industry Total

INPUT®

<sup>\*</sup> INPUT Estimates



### INFORMATION SERVICES LEADING VENDORS

Vendors	1982 U.S. Revenues (\$B)*	Market Share (Percent)
IBM	1.24	4.7
CDC	0.8	2.9
ADP	0.6	2.4
CSC	0.6	2.2
EDS	0.5	2.0
GEIS	0.5	1.9
Burroughs	0.3	1.2
McDonnell Douglas	0.3	1.2
Arthur Andersen	0.2	0.8
Computervision	0.2	0.8

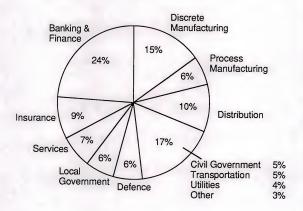
Top Ten Vendors = 20.1% of Industry Total

\* INPUT Estimates





#### WORLD SOFTWARE AND SERVICES MARKET



1989 \$51 Billion (1988 \$43 Billion)



### MARKET OPPORTUNITY MATRIX

	Good	Medium	Poor
Geography			
Service Mode			
Industry Sector			

YSDS-18

-INPUT®-

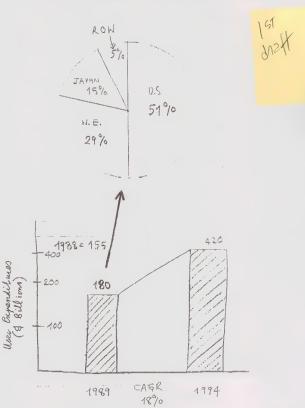


### **WESTERN EUROPEAN MARKET ANALYSIS**

Market Sector	Sector Share (Percent)	CAGR 1989-1994	Leading Vendors
Processing Services	15	7	IBM, DATEV, GEIS
Network Services	3	28	REUTERS, IBM, GEIS
Software Products	31	21	(INDEPENDENTS) CA, MICROSOFT, SOFTWARE AG, SAP
Professional Services	31	20	IBM, CGS, FINSIEL, VOLMAC
Systems Integration	4	26	IBM, CGS, ANDERSEN
Turnkey Systems	16	19	NIXDORF, KIENZLE, PRIME



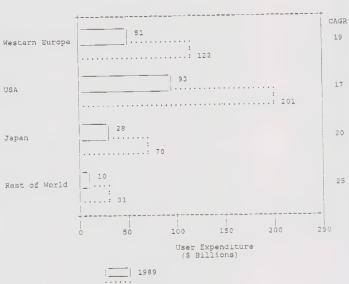
WORLD SOFTWARE AND SERVICES MARKET





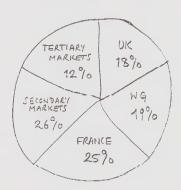
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WORLD SOFTWARE AND SERVICES MARKET BY MAJOR GEOGRAPHIC REGION, 1989 - 1994





WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET



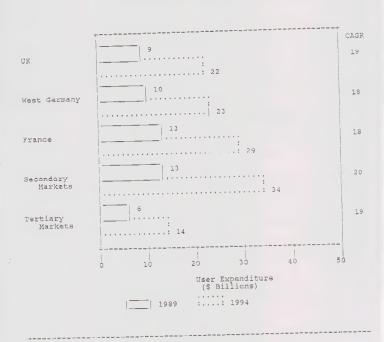
19**89** \$51 Billion) (1988 \$43 Billion)



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47

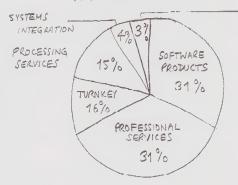
WESTERN EUROPE SOFTWARE AND SERVICES MARKET BY MAJOR GEOCRAPHIC REGION, 1989 - 1994





WESTERN EUROPE SOFTWARE
AND SERVICES MARKET

NETWORK. SERVICES



1989 \$51 BILLION (1988 \$43 BILLION)



WESTERN BURGDE SOFTWARE AND SERVICES MARKET BY MARKET SECTOR, 1989 - 1994 CAGR Processing Services .....: 11 28 Network Services . . . . . : 6 21 Software Products Professional Services ....: 39 . Systems Integration . . . . . : 6 Turnkey Systems 40 50 20 3.0 User Expenditure (\$ Billions) :....: 1994 1989



FROM INPUT LTD

and Services: 1988-1993

NPU"

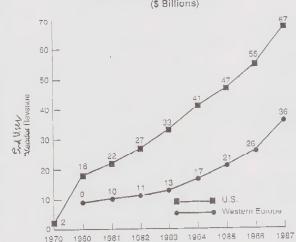
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Omparison with the United States Market United States Market to the European market to the European market to the trus of a historical mendiand as forecast growth. Exhibit III-20 also illustrates the comparison between the U.S. and Europe by market sector.

EXHIBIT III-19

#### PÉVENIME GROWTH IN THE SOFTWARE SERVICES INDUSTRY, 1970-1987 (5 Billions)

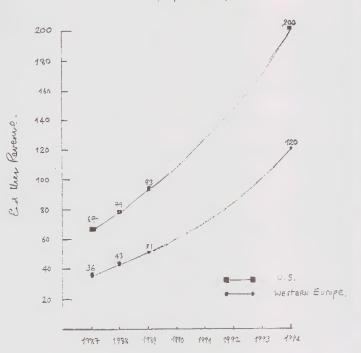


\*Note: Definition changes and dollar exphange rate differences (notably between 1986 and 1987) have slightly affected gross market sizes on a year to-year basis.



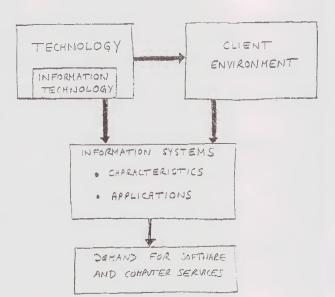
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FORECAST GROWTH IN THE SOFTWARE AND SERVICES INDUSTRY, 1987-1994 (\$ Billions)

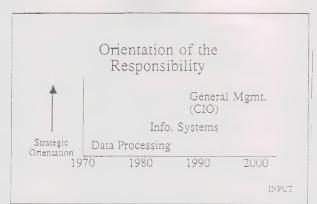


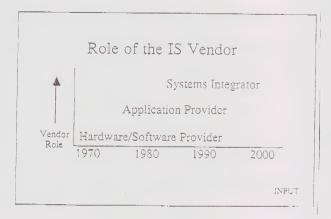


MARKET DRIVING FORCES











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FROM INPUT LTD 9. 1.1989 18:28 P. 3

MARKET OPPORTUNITY MATRIX

	G00D	MEDIUM	POOR
GEOGRAPHY			
SERVICE MODE			
INDUSTRY SECTOR			



P. 4

WESTERN EUROPEAN MARKET ANALYSIS

	T	T	
MARKET SECTOR	SECTOR SHARE	CAGR 1989 - 94	LEADING VENDORS
PROCESSING SERVICES	15	<del></del>	IBM , DATEV, GEIS
NETWORK SERVICES	3	23	REUTERS, IBM, 4FIS
SOFTWARE PRODUCTS	31	21	(INDEPENDENTS) CA, MICROSOFT, SOFTWARE AG, SAP
PROFESSIONAL SERVICES	31	20	TBM, CGS, FINSIEL, VOLMAC
SYSTEMS INTEGRATION	4	26	IBM, CGS, ANDERSEN
TURNKEY SYSTEMS	16	19	NIXDORF, KIENZLE, PRIME



# COMPARATIVE MARKET SIZE W.E. AND US

MARKET SIZE S B	20	50	80	110
W∈	1984	1989	1992	1994
UŞ	1981	1986	1988	1970

(First Year Market Size encoarded.)



# WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET - LEADING VENDORS

RANK	1979	%	1987	%
1234557870	IBM GST ICL GEIS CGS CISI SEMA SCICON SG 2 CDC	6·3 2·3 1·8 1·5 1·4 1·3 1·3 1·2 1·2	IBM NIXDORF UNISYS CGS STEMETTS DISTAL FINSTELL REUTERS TRANSPAC	8.9 3.0 2.5 1.5 1.3 1.1 1.0 0.9
TOTAL		19.4	OCIVÉTT!	21.8



## Information Services Leading Vendors

		0
Vendors	1988 U.S. Revenues (\$B)*	Market Share (Percent)
IBM	5.7	7
** EDS	1.7	2
ADP	1.6	2
DEC	1.3	2
Unisys	1.2	2
CSC	1.0	1
Arthur Anderso McDonnell Do CDC Computer Asso	uglas 0.9	1 1 1 1

Top Ten Vendors=20% of Industry Total

LYPUT

NOTES:

MPRE89-57 +58

<sup>\*</sup> INPUT Estimates



### INFORMATION SERVICES LEADING VENDORS

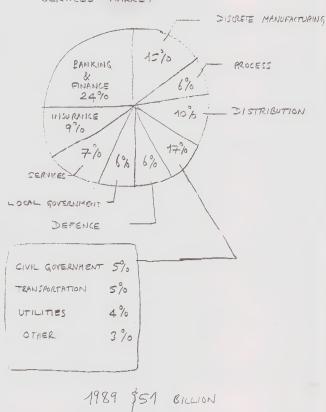
VENIDO25	1982 US REVENUES (\$B)	Market Share (Percent)
18 M CDC ADP CSC EDS GEIS BURROUGHS McD Doug Astlan And Computurisian	1.24 0.8 0.6 0.6 0.5 0.3 0.3 0.2 0.2	4.7- 2.9 2.4 2.2 2.0 1.9 1.2 1.2 0.8

Top Ten Vendors = 20.1 % of Industry Total.



#10.

WESTERN EUROPE SOFTWARE AND SERVICES MARKET



(1988 \$43 BILLION)



ELECTRONIC INFORMATION SERVICES

PERLITATIONS

ENHANCED SERVICES (YANG)

METHORIC MANAGEMENT

BERVICES

